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AUTHOR Lennex, Lesia C.  
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## ABSTRACT

This article describes the processes used to create and complete a digital portfolio during a 12-week student teaching experience at Morehead State University. This pilot study took place during the 1996-1997 school year. The study examined perceptions of digital portfolios among a group of 16 preservice secondary teachers. Study objectives included using their perceptions and current technology to develop a model of successful digital portfolio use and implementing the production of digital portfolios among preservice teachers as an alternative to traditional portfolios. Student teachers received training and were required to demonstrate competency in a variety of computer skills and to work on their portfolios. They were required to pass two computer skills courses. On the first and last day of each semester, students responded to questions regarding technology attitudes and practices. None had yet completed their portfolios when the final survey occurred. Results indicated that their attitudes toward technology were clarified somewhat during the semester. The students indicated some enthusiasm toward digital portfolios, but they had trepidation due to a lack of perceived technical skill. Of the 16 participating preservice teachers, 9 successfully completed the digital portfolio, which contained a resume, educational philosophy, lesson plans, student work, and letters of references and/or transcripts. (SM)

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# Digital Portfolio Production Among Preservice Secondary Teachers

Lesia C. Lennex, Ph.D.  
Morehead State University

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## Introduction

Portfolios are a common factor of life for preservice teachers in Kentucky. In this case, they are representations of success in the New Teacher Standards developed as part of the Kentucky Education Reform Act (KERA). These standards represent various aspects of the profession such as content knowledge, classroom instruction, professional development, collaboration, and evaluation of students. Preservice teachers compile evidence throughout their student teaching experience to demonstrate these goals. Appropriate use, instruction of, and the application by students in technology is present in all eight New Teacher Standard areas.

The "notebook" medium of portfolios is changing in many ways. For the last two years, some public schools in Kentucky have been exploring the use of digital media for creating middle and high school student portfolios. As a result, multimedia products such as ClarisWorks, HyperStudio, and PowerPoint have become staples in these classrooms. The argument among these groups, as with others across the country, has been that digital media facilitates the collection, archiving, and transition of portfolios through twelfth grade (Milone 1995; Lynch 1996).

At Morehead State University (MSU), I decided to do something "different" with my student teachers. The idea was to create a digital portfolio on CD-ROM in which students would dynamically represent their student teaching experience. Since preservice teachers are required to produce an interview portfolio by the end of student teaching, this would serve a dual purpose: a digital portfolio would demonstrate not only the New Teacher Standards, but also the technological proficiency desired by administrators and school systems. The objectives of this study were to (1) determine the present perception and current technologies regarding digital media, especially among MSU preservice secondary teachers; (2) given these perceptions and technology, develop a model of the successful digital portfolio; and (3) implement the production of digital portfolios among MSU preservice teachers as an alternative to traditional portfolios. This article describes the various processes used to create and complete a digital portfolio during a twelve week student teaching

experience.

## **Background**

As a teacher educator with access to preservice secondary students, the next logical steps were to determine my pilot group's parameters. I began the pilot study of digital portfolios in the 1996-1997 school year. Student teaching consisted of one 15-week semester split between a campus methodology course, EDSE 415 and field experience, EDSE 416. Students would be on campus for four weeks prior to school placement and several follow-up classes throughout the semester for EDSE 415. As a prerequisite to student teaching, MSU students are required to pass two of the following computer skills courses in the Teacher Education Program: "Teaching Skills and Media," "An Introduction to Computers," a computer workshop, or a CLEP exam.

Because rudimentary computer skills had been successfully covered in the prerequisite courses, I decided to proceed during the four weeks of campus training with basics in electronic mail, PowerPoint 95, video and audio capture, and scanning of photographs. The time spent on these applications was limited since the nature of the course was focused on instructional methodology in student teaching. Students from Fall semester were required in this course to demonstrate competency in technology basics by completing the following:

- (1) Locate ERIC documents through an Internet connection and e-mail the results to me.
- (2) Locate Listservs and Bulletin Boards of interest and e-mail me the purpose of the groups and the procedures to join.
- (3) Scan one graphic and one text piece, write a summary of procedure, and submit a disk containing the scans to me.
- (4) Develop a five-slide presentation on PowerPoint and demonstrate the results to the class.
- (5) Attend a video and audio capture workshop.
- (6) Send electronic journals each week during the student teaching.

Also, the student teaching semester allows up to two personal days for absences. I distributed a letter to all cooperating teachers asking that they allow at least two more

days for students to work on their portfolios on campus if necessary. A multimedia facility was available for students to schedule; one date was already scheduled and listed in the cooperating teacher contact letter.

I changed the assignments in second semester to reflect needs demonstrated in Fall semester. I added the following:

- (1) HyperStudio instruction and development of a five-slide demonstration.
- (2) ClarisWorks, Toolbook, and Macromedia demonstrations
- (3) Specified weekend training sessions throughout the student teaching semester for audio and video capture, PowerPoint application, HyperStudio application, and specific multimedia work.
- (4) Development of a World Wide Web page to address student teaching needs on a regular basis.

Conditions at the student teaching sites varied tremendously throughout this pilot. Six students were placed in large, metropolitan/urban school systems, six in large, suburban schools within fifteen miles of a metropolitan center, three in a suburban/rural system within thirty miles of a metropolitan center, and one in a rural school system about forty miles from a metropolitan center. Most of the school systems had access to the Internet for teachers, at least eight of the students did not have e-mail at their schools. I requested from the school technology coordinator an electronic mail account for each student teacher. This had to be cleared with the Kentucky Department of Education as it was adding an individual to their electronic mail system. The process took up to ten weeks to complete in some cases. Of these, seven students used dial-up accounts at their homes for e-mail and one simply mailed journals to me. The last case eventually did receive e-mail, but could not send it to me successfully without forwarding it through an intermediary at another school. At least two of the schools were very advanced and possessed scanners, audio and video equipment, as well as highly trained personnel capable of facilitating technology knowledge.

## **Results**

On the first day of each semester, students in my section of EDSE 415 were asked to

respond to several questions regarding technology. Fall semester there were eleven student teachers and in Spring five for a total of sixteen in the pilot study. Their attitudes and practices with technology were questioned heavily. All but one of the respondents seemed to believe that they were competent in word processing and using a computer. The students had used PC's most often, but had some experience with Macintosh. The groups were initially split over the issue of using technology in the classroom. Many believed that technology meant "computers" and stated that they should not replace a living teacher. Others simply stated that technology should be increased so that skills were taught in public schools. The attitudes toward technology were expressed far too vaguely to be described accurately from Fall semester. Spring semester students noted some enthusiasm, but little actual experience with technology.

On the last class date of each semester, a similar survey was given to the preservice teachers. At this point, fifteen of the sixteen preservice students had successfully completed student teaching. None had yet completed their portfolio when the survey was given. Students were again asked their attitudes and practices with technology. Of those responding, all claimed to have competency in word processing, PowerPoint, and scanning photographs and text. However, several others noted proficiency in using ClarisWorks, video and audio capture, HyperStudio, and using electronic mail.

The attitudes toward technology had clarified somewhat during the semester. Fall semester students were quite vocal about their attitudes after having completed student teaching and the portfolio requirements. All students were heartily in favor in technology incorporation in the classroom. Many stated that they felt this project would increase their worth in the job market as well as provide more creativity to their teaching. Two respondents added that the stress and pressure of student teaching was compounded by trying to complete a digital portfolio during this semester. All but two of the students used the Internet for up to twenty hours of classroom related instruction and job searches. All noted that group instruction on specific workshop dates throughout the semester would have been beneficial.

Spring semester students were given group instruction during Saturday workshops on campus in the multimedia labs. Initially, they were somewhat enthusiastic, but

hesitant, because of their admitted lack of technological skill. Their attitudes toward technology became ambiguous as the semester continued. As the workshops progressed, students completed all of the assignments required, but did not go beyond this point. At least two of the students were able to complete all requirements on their own and did not attend the workshop sessions. The remaining students were eager to learn, but did not exceed expectations.

Of the sixteen students involved during 1996-1997, nine successfully completed a digital portfolio. Successful portfolios contained a resume, educational philosophy, lesson plans, student work, and letters of reference and/or transcripts. Another five completed portions of the portfolio which would come to represent their contributions to the project. Two did not complete any work on the digital portfolio.

## **Conclusions**

The pilot project has yielded a good amount of knowledge regarding the attitudes and practices of technology among this small group of preservice teachers. They are generally enthusiastic about using technology, however some think that this means computers only. These teachers have used the Internet somewhat and are willing to use it more frequently for classroom applications given the knowledge to do so. Many will use this knowledge to creating future classroom activities which will encourage student learning and advancement in specific fields of study.

It would seem, though, that MSU's preservice teacher education program is not adequately preparing teachers for continued use of educational technology. Basics in word processing simply will not be sufficient for teaching the students in today's schools. Before having this pilot project, students were comfortable only in word processing. After the project, many admitted that they see a need for revision in the program to reflect current technology. Instruction and application into critical thinking with technology is clearly indicated. Otherwise, we may be facing a future of automaton teachers who do not know how to go beyond the textbook.

I believe that the production of digital portfolios is viable, however some variables must

be considered before undertaking such a project. The state of Kentucky had promised to upgrade all its schools to Internet capability and classroom readiness before the end of school year 1997. As of this writing, the date has been pushed back to school year 1998. Having seen many of these schools, I suspect that the date will be pushed even further. Also, as with many school systems, monies are not available for professional development and training with technology. These funds must go toward state test score improvement and building maintenance. The technology may be in the schools, but few teachers are actually using it at this point. This, together with college coursework and personal biases unrelated to education, will affect the attitudes of preservice teachers. Anecdotally, those schools with access to technology and the trained personnel to assist teachers, tended to be dens of inquiry and creativity. Six of the nine successful portfolios were produced by preservice students in the highly technologically advanced schools. This semester I have begun a new pilot analyzing the attitudes and practices of preservice personnel and their cooperating teachers.

## References

Lynch, Patrick J. (May 1996). Cross-platform multimedia access for education: using PDF files. *Syllabus*, 14-18.

Milone, Michael (1995). Electronic portfolios: who's doing them and why? *Technology and Learning*, 16(2), 28-29, 32, 34, 36.

Lesia Lennex is Assistant Professor of Leadership and Secondary Education in the College of Education and Behavioral Sciences, Morehead State University, Morehead, Kentucky, 40351. Voice, Office: 606-783-2879. E-mail: l.lennex@morehead-st.edu.